

Attorney Docket No.: J3681(C)
Serial No.: 10/521,983
Filed: August 17, 2005
Confirmation No.: 1483

BRIEF FOR APPELLANTS

Sir:

This is a Brief on Appellant's Appeal from the Examiner's Final Rejection concerning the above-identified application.

The Commissioner is hereby authorized to charge any additional fees, which may be required to our deposit account No. 12-1155, including all required fees under: 37 C.F.R. §1.16; 37 C.F.R. §1.17; 37 C.F.R. §1.18; 37 C.F.R. §1.136.

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BRIEF FOR APPELLANT

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I. REAL PARTY IN INTEREST

Unilever Home & Personal Care USA, Division of Conopco, Inc. is the real party in interest.

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II. RELATED APPEALS AND INTERFERENCES

There are no other prior or pending appeals or interferences or judicial proceedings known to appellant, the appellant's legal representative, or assignee which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending Appeal.

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III. STATUS OF CLAIMS

Claims 1 to 10 and 12 to 15 are rejected and on appeal. Claim 11 has been cancelled.

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IV. STATUS OF AMENDMENTS

There are no amendments that have not been entered.

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V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The claims on appeal are summarized as follows:

Claim 1 is directed to a suspension aerosol composition that comprises milled activated aluminium chlorohydrate (AACH) having non-hollow particles, a carrier fluid comprising a masking oil of specified viscosity (i.e., a viscosity of $10^4 \text{ mm}^2/\text{s}$ or greater), and a propellant gas. See, for example, the specification at page 3, lines 12 to 16; page 6, lines 5 to 7; and page 7, lines 25 to 26.

Claim 2, depending from claim 1, specifies that the AACH is present at a level of from 1% to 30% by weight of the composition. See, for example, page 4, lines 16 to 20.

Claim 3, depending from claim 2, specifies that the AACH is present at a level of from 2% to 5% by weight of the composition. See, for example, page 4, lines 16 to 20.

Claim 4, depending from claim 1, specifies the viscosity of the masking oil as $30,000 \text{ mm}^2/\text{s}$ or greater. See, for example, page 6, lines 5 to 7.

Claim 5, depending from claim 1, specifies that the AACH has a continuous RI. See, for example, page 5, lines 5 to 6.

Claim 6, depending from claim 1, specifies that the masking oil has an RI of 1.40 to 1.57. See, for example, page 6, line 4.

Claim 7, depending from claim 6, specifies that the masking oil is a silicone oil. See, for example, page 5, lines 22 to 23.

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Claim 8, depending from claim 1, specifies that composition includes an additional emollient oil. See, for example, page 6, lines 23 to 24.

Claim 9, depending from claim 1 specifies the composition further comprises a bulking or suspending agent. See, for example, page 7, lines 14 to 17.

Claim 10, depending from claim 1 specifies that the composition further comprises a volatile silicone. See, for example, page 7, lines 6 to 7.

Claim 12, depending from claim 1 specifies that the propellant gas is a liquefied gas at a level of from 5 to 95% by weight of the composition. See, for example, page 7, lines 25 to 28, and page 7, line 31 to page 8, line 2.

Claim 13 is an independent claim directed to a method of manufacturing a suspension stick than includes a milled activated aluminium chlorohydrate (AACH); a carrier fluid mixture that comprises a masking oil of specified viscosity (i.e., $10^4 \text{mm}^2/\text{s}$ or greater), a volatile silicone, and perfume; and a propellant gas, wherein the method comprises suspending milled AACH having non-hollow particles the carrier fluid mixture, placing the suspension in an aerosol can, and adding propellant gas in liquefied form. See, for example, page 3, lines 12 to 16; page 6, lines 5 to 7; page 7, lines 25 to 26; page 7, lines 6 to 7 and 25 to 28; and page 9, lines 2 to 8.

Claim 14 is an independent claim directed to a method of reducing perspiration and giving low visible deposits that comprises applying to the human body a suspension aerosol composition that includes milled AAH having non-hollow particles and a carrier fluid comprising a masking oil of specified viscosity (i.e., $10^4 \text{mm}^2/\text{s}$ or greater). See, for example, page 3, line 25 to page 4, line 2; and page 6, lines 5 to 7.

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Claim 15, depending from claim 1, further specifies that the mean particle size of the milled AACH is from 20 to 30 microns. See, for example, page 5, lines 7 to 9.

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VI. GROUNDS OF REJECTION TO BE REVIEWED UPON APPEAL

The grounds of rejection to be reviewed upon appeal as defined by the Examiner's Final Rejection and subsequent Advisory Action is as follows:

The rejection of claims 1-10 and 12-15 under 35 U.S.C. § 103(a) over Hall (US Patent No. 5,840,289).

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VII. APPELLANTS' ARGUMENTS

I. Claims 1 to 10, 12, 13 and 15 are not obvious over Hall.

The presence of antiperspirant active in antiperspirant aerosol compositions can give rise to deposition of the active, typically as a white powder, on a user's skin and/or clothes. Matching the refractive index of active and masking oil components has been suggested as a means of reducing whitening. Notwithstanding, in the case of aerosol compositions containing activated AACH as the active, reduced whitening can be difficult to achieve. AACH is commonly available in the form of hollow particles. These hollow particles generally have cores of significantly lower RI than their shells, complicating the task of matching refractive index, as the hollow particles do not have a continuous RI.

Hall suggests an approach to reducing whitening in AACH-containing aerosol compositions which involves milling the AACH to reduce the number of particles having hollow cores, thereby enabling the refractive index of AACH and masking oil to be better matched. Hall discloses that its compositions may contain emollient masking agents and identifies as preferred masking agents "Finsolv (trade Mark) Benzoate Esters available from Finstex Inc. and Panalene, a hydrogenated polybutene available from Amoco, Fluid AP (Union Carbide), isopropyl palmitate, phenylsilicone, and isopropyl myristate." See column 2, lines 44 to 49.

The subject inventors have found that whitening can be further reduced in AACH-containing aerosol compositions formulated from a milled AACH active by employing in such compositions a masking oil having a particular viscosity, i.e., a viscosity of $10^4 \text{ mm}^2/\text{s}$ or greater.

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Hall exemplifies milled AACH-containing compositions, which employ as the masking oil component thereof products identified as Finsolv TN (a benzoate ester), Silkflo 364 NF (polydecene), Panalene L-14-E (hydrogenated polyisobutene) and Cosmacol PLG (an emollient that comprises the oils di(C₁₂₋₁₃)alkyl tartrate and tri(C₁₂₋₁₃)alkyl citrate together with silica, a solid, not an oil). In a response submitted in the PCT family member of the subject application (International Application No. PCT/EP 03/07065) dated July 16, 2004, a copy of which is provided in the Evidence Appendix of this Brief, information was provided to substantiate the contention that the emollient oils in the Hall examples all are of **significantly lower viscosity** than 1,000mm³/s, as is Fluid AP, referred to above. In short, the referenced letter evidences that such materials have significantly lower viscosities than a viscosity value that is an order of magnitude less than the minimum viscosity (10,000mm³/s) set forth in the subject claims.

The Final Rejection acknowledges that the four masking oils exemplified by Hall are of lower viscosity than the claimed oils, but maintains that Hall "clearly teaches the same concept as the instant invention, which employs a composition comprising a particular antiperspirant active (an activated aluminium chlorohydrate or AACH which has a desirable continuous refractive index) and a masking agent that has a desirable refractive index matching with the AACH antiperspirant active to produce an effect of reducing visible whitening." See Page 7, lines 3 to 7. Respectfully, the subject invention is more than the selection of an active and masking agent with matched refractive indices.

With reference to the instant specification, Table 1 provides whiteness data for compositions that contained (I) an unmilled active (Examples A and B) or a milled active (Examples C and 1) and (II) DC 200 PDMS having a viscosity of 50 mm²/s (Examples A and C) or DC200 PDMS having a viscosity of 30,000 mm²/s (Examples B

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and 1). Both DC 200 polydimethyl siloxanes (polydimethyl siloxane being abbreviated as PDMS) were Dow Corning products. The Table 1 data is summarized below:

	Examples			
	A	B	C	1
Components				
Conventional Unmilled AACH	2	2		
Milled AACH			2	2
Hectorite clay	0.5	0.5	0.5	0.5
Volatile silicone	6.9	6.9	6.9	6.9
DC 200 PDMS (50mm ² /s)	3		3	
DC 200 PDMS (30,000mm ² /s)		3		3
Fragrance	0.6	0.6	0.6	0.6
Propellant (mix of butane, isobutene and propane)	To 100	To 100	To 100	To 100
Whiteness				
Score:	1789	1397	1420	750
95% limits:	+145	+89	+64	+57

Copies of data sheets from Sigma-Aldrich for Dow Corning DC200 50cSt and Dow Corning DC200 30,000cSt products are attached in the Evidence Appendix (centistokes (cSt) being an alternate expression for viscosities reported in metric units of mm²/s). As demonstrated by these data sheets, the refractive index (*n*_{20/D}) for Dow Corning's 50cSt and 30,000cSt DC200 products are both the same, i.e., 1.403. Thus, **masking oil RI was not a variable in these Examples**. Notwithstanding that the refractive index of the PDMS masking oils **was the same**, the compositions with either the unmilled active or the 50cSt (mm²/s) PDMS all had relatively high whiteness values, while the composition that contained a combination of both the higher viscosity masking oil (30,000 cSt (mm²/s) PDMS) and the milled active was found to have a significant and unexpectedly reduced whiteness.

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The Advisory Action further maintains that it was generally known that phenylsilicones (one of the class of emollient masking oils disclosed by Hall) would have been available in a variety of viscosities¹. The Advisory Action concludes that one skilled in the art reading Hall “would have been motivated to try other functional equivalent masking agent, i.e. phenyl silicone with suitable viscosity level that would give the same desirable reduced visible whitening effect, as suggested by Hall...”

Respectfully, there is no teaching or suggestion in Hall that would can reasonably be said to lead one skilled in the art to expect that masking oils having the instantly claimed viscosities when combined with a milled AACH active in an aerosol composition provide a means of reducing whiteness. Indeed, conventional wisdom might lead one skilled in the art to expect that **lower viscosity oils**, which would reasonably be expect to spread more easily, might provide better coating of the active and, therefore, decreased whiteness. Such a conclusion is consistent with the Examples of Hall, all of which are all directed to compositions which contain masking oils of significantly lower viscosities. Further, even if Hall were construed to establish a case of prima facie obviousness (which Appellants do not concede), it is respectfully submitted that the data in the subject application provides a showing of a surprising and unexpected improvement in whiteness reduction that refutes same. In view of the foregoing, it is respectfully submitted that the invention as described by claims 1 to 10, 12, 13 and 15 is not obvious over Hall.

II. Claim 14 is not obvious over Hall

¹ The Advisory Action references US 6,811,770 (Ferrari et al.) directed to a two-coat make-up kit as evidencing that phenylsilicones having viscosities of from 5 to 100,000cst were generally available. Ferrari et al. was not made of record or applied in any rejections up to and including the Final Rejection.

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Claim 14 is directed to a method of reducing perspiration and giving low visible deposits. In the claimed method, a suspension antiperspirant aerosol composition comprising milled AACH having non-hollow particles and a carrier fluid comprising a masking oil of viscosity of 10,000 mm²/s or more is applied to the human body. Appellants repeat the arguments made in Subsection I of this Section VII. Additionally, Applicants submit that reading Hall, it would not be predictable to one of ordinary skill that visible antiperspirant active deposits could be reduced through the application to the surface of the human body of an AACH-containing aerosol selectively formulated to contain, in addition to a milled AACH active, a high viscosity masking oil as instantly claimed.

In view of the foregoing, Appellants respectfully request the Board of Patent Appeals and Interferences to reverse the Examiner's final rejection.

Respectfully submitted,

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Attorney for Appellant(s)

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VIII. CLAIMS APPENDIX

The text of the claims involved in the appeal is:

1. A suspension antiperspirant aerosol composition comprising milled activated aluminium chlorohydrate (AACH) having non-hollow particles, a carrier fluid comprising a masking oil of viscosity 10^4 mm²/s or greater, and a propellant gas.
2. An aerosol composition according to claim 1, wherein the AACH is present at a level of from 1% to 30% by weight of the composition.
3. An aerosol composition according to claim 2 wherein the AACH is present at a level of from 2% to 5% by weight of the composition.
4. An aerosol composition according to claim 1, wherein the masking oil has a viscosity of 30,000 mm²/s or greater.
5. An aerosol composition according to claim 1, wherein the AACH has a continuous RI.
6. An aerosol composition according to claim 1, wherein the masking oil has an RI of 1.40 to 1.57.
7. An aerosol composition according to claim 6, wherein the masking oil is a silicone oil.
8. An aerosol composition according to claim 1, comprising an additional emollient oil.

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9. An aerosol composition according to claim 1, further comprising a bulking or suspending agent.
10. An aerosol composition according to claim 1, further comprising a volatile silicone.
12. An aerosol composition according to claim 1, wherein the propellant gas is a liquefied gas at a level of from 5 to 95% by weight of the composition.
13. A method of manufacture of a suspension antiperspirant aerosol composition, said method comprising forming a suspension a milled activated aluminium chlorohydrate (AACH) having non-hollow particles in a carrier fluid mixture that comprises a masking oil of viscosity 10^4 mm²/s or greater a volatile silicone, and perfume; placing the suspension in an aerosol can; and adding a propellant gas that is in a liquefield form.
14. A method of reducing perspiration and giving low visible deposits comprising applying to the human body a suspension antiperspirant aerosol composition comprising milled AACH having non-hollow particles and a carrier fluid comprising a masking oil of viscosity 10^4 mm²/s or greater.
15. An aerosol composition according to claim 1 wherein the mean particle size of the milled activated aluminium chlorohydrate is from 20 to 30 microns.

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IX. EVIDENCE APPENDIX

The Evidence Appendix contains the following:

A copy of a letter dated July 16, 2004 to the European Patent Office that was submitted in connection with the prosecution of the PCT family member of the subject application (International Application No. PCT/EP03/07065), which letter was made of record in the subject application as part of the Amendment of March 19, 2009 submitted in response to a Non-Final Rejection. Consideration of such Amendment by the Examiner is acknowledged in the first sentence of page 6 of the Final Rejection dated June 9, 2009.

Copies of data sheets from Sigma-Aldrich for Dow Corning 200 fluid having a viscosity of 50 (cSt) and Dow Corning 200 fluid having viscosity of 30,000 cSt. The data sheets were made of record in the subject application as part of the Request for Reconsideration of August 17, 2009. Consideration of such Request for Reconsideration by the Examiner is acknowledged in the Advisory Action of October 17, 2009. See box 11.



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Our Ref: CW/jc/J3681 (C)

16 July 2004

Dear Sirs

Re: International Application No. PCT/EP 03/07065
Unilever PLC et al

In response to the first written opinion of the IPEA issued on the 19.04.2004, the applicant wishes to submit the following observations.

The present invention concerns masking oils of particularly high viscosity ($10^3 \text{ mm}^2/\text{s}$ or greater). It is respectfully submitted that document D3 does not disclose any masking oils of such high viscosity. Of the oils exemplified in D3:

Finsolv TN has a viscosity of approximately 40 cps (1);

Silkflo 364NF has a viscosity of 16-18 cSt (2);

Panalane L-14E has a viscosity of 48 cps (3); and

Cosmacol PLG comprises the oils di(C₁₂₋₁₃)alkyl citrate and tri(C₁₂₋₁₃)alkyl citrate, both of which are of relatively low viscosity, together with silica (a solid, not an oil) that serves to increase the viscosity of the mixture up to 1000 mPa.s (4).

Of the other oils mentioned in column 2 of D3, Fluid AP has a viscosity of 84 cps (5) and isopropyl palmitate, phenylsilicone, and isopropyl myristate are all of low viscosity.

Thus, it is respectfully submitted that D3 neither discloses nor suggests the use of the high viscosity oils of the present application. The surprising benefit obtained from the use of these oils is clear from the examples given in the specification. It is respectfully requested that the novelty and inventiveness of present claims be acknowledged in light of these observations.

- (1) See the enclosed sheet giving the supplier's specification for this material. It should be noted that the kinematic viscosity in mm^2/s may be derived from the viscosity in cps by dividing the latter by the specific gravity of the oil. Since Finsolv TN has a specific gravity of approximately 0.923, the kinematic viscosity is approximately 43 mm^2/s .
- (2) See the enclosed Unilever raw material specification sheet for this material.

J3681OAWO1

PATENTS IN THE BUSINESS
Unilever PLC

Registered in London number 41424 Registered office Port Sunlight Wirral Merseyside CH162 4ZA

- (3) This measurement was made in our own laboratories (at 25°C and 1001 Hz). Since the specific gravity of the oil will be between 0.85 and 1.0, the kinematic viscosity is between 56 and 48 mm²/s [see note (1)].
- (4) See the enclosed details of the supplier's technical literature. With the viscosity of the silica-containing mixture being 1000 mPa.s (equal to 1000 cps), it is clear that the viscosity of the oils by themselves would be much less 1000 mPa.s/cps. With the specific gravity of the oils being between 0.85 and 1.0, it is further clear that the kinematic viscosities of the oils are much less than 1000 mm²/s [see note (1)].
- (5) This measurement was made in our own laboratories (at 25°C and 1001 Hz). Since the specific gravity of the oil is approximately 1, the kinematic viscosity of the oil is approximately 48 mm²/s [see note (1)].

Yours faithfully

C Whaley

Whaley, Christopher
European Patent Attorney
General Authorisation No. 170

Encl. Sheet giving supplier's specification for Finsolv TN;
Unilever raw material specification sheet for Silkflo 364 NF;
Sheet giving supplier's technical literature on Cosmacol PLG.

J36810AWO1

Local or Supplier Specification

12th May 1993

Unilever Name: **C12-15 Alkyl Benzoate**
 Specification from: **Elida Gibbs, Germany (Supplier's Specification)**
 INCI Name: **C12-C15 Alkyl Benzoate**
 Trade name(s): **Elinsolv TN**
 Local Ref: **-**
 Status: **Published**

CONTROL
PROPERTYLIMITSTEST METHODSLocalUMA Equivalent

1. Condition at 20°C	Clear liquid	Supplier
2. Odour	Mild	Supplier
3. Colour (Hazen)	50 max	Supplier
4. Acid value	0.25mg KOH/g max	Supplier
5. Water (Karl Fischer)	0.1% max	Supplier
6. Saponification value	167 - 180mgKOH/g	Supplier
7. Hydroxyl value	8mg KOH/g max	Supplier
8. Freeze point	-9°C	Supplier
9. Fluid point	-6°C	Supplier
10. Flame point	165°C	Supplier
11. Specific gravity (at 25°C)	0.923 approx	Supplier
12. Viscosity (at 25°C, Brookfield)	40 cps approx	Supplier
13. Solubility	Soluble in Isopropanol, Isopropyl Myristate, Mineral Oil, Corn Oil Insoluble in Glycerin, Propylene Glycol, Sorbitol (70%)	Supplier

Unilever Raw Material Specification

March 1996

Unilever Name:	Polydecene (Silkfil 364NF)
INCI Name:	Polydecene
Status:	Unilever Quality Standard (UQS)
Supersedes:	Interim Specification, March 1996

UNLESS OTHERWISE STATED, ALL LIMITS APPLY TO MATERIAL 'AS RECEIVED'. TEST METHODS ARE UNILEVER METHODS EXCEPT WHERE INDICATED OTHERWISE.

CONTROL PROPERTY

LIMITS

TEST METHOD

1. Description	Colourless, slightly viscous, odourless liquid, free from signs of impurity	Visual inspection and Olfactory assessment
2. Identity	Conforms	Infra-red spectroscopy (thin film) E.IIk.1
3. Colour	10 max	Haze E.IIj.3
4. Oligomer distribution		Supplier method
- Monomer & Dimer	1% max	
- Trimer	82-96%	
- Tetramer	12-18%	
- Pentamer & above	1% max	
5. Water	25 ppm max	Karl Fischer E.IIIa.4
6. Specific gravity (at 15.6°C)	0.817-0.820	Density bottle
(at 20°C)	0.815-0.818	E.Ua.1
7. Refractive index (at 20°C)	1.4550-1.4560	Abbe refractometer E.III.1
8. Viscosity (at 40°C)	16-18 cSt	U-tube viscometer E.IId.1
9. Pour point	-65°C max	Supplier method
10. Acid value	0.1 mg KOH/g max	Titration Supplier method
11. Bromine number	0.4 g Br/100g max	Supplier method
12. Iron	5 ppm max as Fe	Supplier method
13. Arsenic	5 ppm max as As	Cutzeit test E.IIIh.2-2
14. Heavy metals	15 ppm max expressed as Pb	Colorimetry E.IIIh.4-2
15. Lead	5 ppm max as Pb	Supplier method
16. Chromium	1 ppm max as Cr	Supplier method
17. Cobalt	1 ppm max as Co	Supplier method
18. Nickel	1 ppm max as Ni	Supplier method
19. Mercury	1 ppm max as Hg	Supplier method

RAW-MATERIALS TECHNOLOGY GROUP
Suppliers Technical Literature

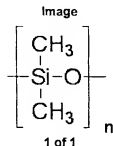
Reference : 16288
Brochure Number : 14152
Supplier : CONDEA
Extension :
Trade Name : **Cosmacol PLG**
Material : Di(C12-13)alkyl tartrate, tri(C12-13)alkyl citrate, silica
Type : Other ester
Description :
Specification : Dry matter = >99.9% Visc @ 20C = 1000mPa.s
Density @ 20C = 0.85

Comments : For use in personal product formulations, emollient anti-wrinkle etc
Date : 00/01/94/A
Availability :

Author: Diana Probert
Date: 21/05/98
Last edited: 27/08/99 10:24:58 by Diana Curtis
Document size: 0.9 Kbytes

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Last 5 Products Viewed

- [378356 \(Aldrich\)](#)
- [85416 \(Fluka\)](#)
- [85412 \(Aldrich\)](#)

378356

Aldrich

Silicone oil

Dow Corning Corporation 200®fluid, viscosity 50 cSt

Price and Availability

[Click For Pricing and Availability](#)

CAS Number: 63148-62-9

Linear Formula: $[-Si(CH_3)_2O-]_n$

MDL number: MFCD00132673

[Specifications](#)[Related Products](#)[References](#)

Description

Packaging 1 L in poly btl
250 mL in poly btl
5 mL in glass btl

Legal Information 200 Fluid is a registered trademark of Dow Corning Corp.
®Registered trademark of Dow Corning Corporation

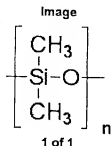
Properties

vapor density >1 (vs air)
vapor pressure <5 mmHg (25 °C)
5 mmHg (20 °C)
mfr. no. Dow Corning Corporation 200®fluid
refractive index $n_{20/D}$ 1.403(lit.)
viscosity 50 cSt (25 °C)
bp >140 °C/0.002 mmHg(lit.)
density 0.96 g/mL at 25 °C

Safety

Personal Protective Equipment Eyeshields, Gloves, Respirators

WGK Germany 1
RTECS JT6485000
Flash Point(F) 600.8 °F
Flash Point(C) 316 °C

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- [Polymer Science > Silicones > Silicon oils](#)

Last 5 Products Viewed

- [378429 \(Aldrich\)](#)
- [378356 \(Aldrich\)](#)
- [85416 \(Fluka\)](#)
- [85412 \(Aldrich\)](#)

378429**Aldrich****Silicone oil****Dow Corning Corporation 200®fluid, viscosity 30,0****Price and Availability**[Click For Pricing and Availability](#)**CAS Number:** 63148-62-9**Linear Formula:** $[-Si(CH_3)_2O-]_n$ **MOL number:** MFCD00132673[Specifications](#)[Related Products](#)[References](#)**Description**

Packaging 1 L in poly btl
250 mL in poly btl
5 mL in glass btl

Legal Information 200 Fluid is a registered trademark of Dow Corning Corp.
®Registered trademark of Dow Corning Corporation

Properties

vapor density >1 (vs air)
vapor pressure <5 mmHg (25 °C)
5 mmHg (20 °C)
mfr. no. Dow Corning Corporation 200®fluid
refractive index $n_{20/D}$ 1.403(lit.)
viscosity 30,000 cSt (25 °C)
bp >140 °C/0.002 mmHg(lit.)
density 0.971 g/mL at 25 °C

Safety**Personal Protective Equipment** Eyeshields, Gloves, Respirators

WGK Germany 1
RTECS JT6485000
Flash Point(F) 600.8 °F
Flash Point(C) 316 °C

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X. RELATED PROCEEDINGS APPENDIX

None.